NEW ENGLAND FARMER.

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From the American Farmer.

FRUIT TREES.

Edgefield, South Carolina, Feb. 28, 1822.

"On Savage stocks inserted learn to bear."

There are few subjects more deserving the attention of the American agriculturist than the art of grafting, and few which are more unaccountably neglected. Not only to natural philosophers, but to whomsoever the works of naturalists can impart a charm; it must be pleasing to know something of that affinity in the saps of different trees, which qualifies one to bear the fruits of many, however widely differing in shape, size, and flavor. Thus every variety of plum, peach, nectarine, apricot, and almond will succeed well on the wild plum stock. The apple, pear, quince, medlar, service, and hawthorn, though differing with one another, will all agree to grow on the hawthorn, (*cratægus.*) The whole of the *Icosandria* class appears to discover a disposition to graft on each other. It seems somewhat derogatory to the character of American husbandry, that the third volume of the Farmer is nearly completed, and nothing like a lecture has yet appeared, upon an art, so productive of profit and pleasure. However desirable, I do not presume on the present occasion, to supply the defioiency here complained of. The very short time since my attention has been directed to the subject, forbids it; but my zeal in the cause, prompts me to begin, what I hope to see completed by an abler hand. Faith and philosophy appear to agree in the simplicity of the origin of all things.* From these premises we might conclude, that previous to all changes by accident or culture, all the fruits of the earth might have flourished on one parent stock! Culture seems to have full as much influence as difference of genus. As the apple and pear, apple and quince, cherry and plum, and even the wild and tame cherry, will not graft together, although of the same genus; while the apple and hawthorn, peach and rose will succeed together by grafting.† And I have been informed by practical grafters, that many varieties of cultivated apples refuse to grow on the wild crab stock. Phillip Miller speaks of the wild cherry as a stock for the tame, but there must be a difference between his variety and that of this country; or a further change has taken place since his time, as I can assert from repeated trials, both by budding and grafting, that an union cannot be effected. And if there be not more of poetry than truth in Virgil, many trees which claimed kin when he wrote, disown it now. According to this view of the matter, in the ratio that the different genera of trees recede from their original condition, will be the difficulty of uniting them by art. Thus, though the cultivated apple and pear will not graft together, perhaps the wild apple and stone pear might; scientific gentlemen who have the opportunity, owe it to philosophy to make the experiment. There is something sublime in the idea, that the first cause should have left the fruits of the earth in their crude state, to be mellowed by the hand of man; that in effecting this salutary change, the conceit of his skill, by inciting exertion, should expel his inborn apathy so fatal to his happiness and glory. All the instructions I have ever seen on grafting, I know to be very imperfect. The old bungling method of applying three or four pounds of clay and stone-horse dung to the grafts, should have been long ago exploded.* The sole intention of a wrapper being to exclude the air from the wounds occasioned by the process, a cerate will answer the purpose far better, cheaper and neater; a piece of the size of a hazel nut being generally sufficient. And after the grafts have made some little progress in uniting with the stocks, the wax may be collected for future operations.

Almost every publication which I have had the opportunity to peruse, directs one third of turpentine in the composition of a grafting wax; this though very ductile and pleasant to use, I found certainly to destroy both grafts and stocks, as far as the wax came in contact with them. From the numerous respectable authorities recommending this wax, I was very liberal in its application to a number of choice grafts, without suspicion; but had the vexation upon the first inspection by removing the wax, to discover that a complete mortification had taken place under the wax; and even extending further in little lines along the grain of the wood. I separated the dead wood, and with a more friendly cerate, regrafted the surviving buds with success. Whatever may be the innocence of a wax containing one third turpentine in a northern climate, I was so well convinced from my trials of its deleterious effects in Carolina, as to reject it entirely. After many experiments to ascertain the best composition for a grafting wax, I prefer the following:—One measure of olive oil or hog's lard, 3 do. of melted bee's wax; mix well while hot, to be worked after it is cool, till sufficiently pliant. Perhaps sweet gum resin might form the basis of a more ductile wax, without imparting a destructive quality.—The following general rule may be observed by the noviciate in the science of grafting. All trees of the same genus, (not greatly altered by art,) will succeed together by inoculation. Those who have the opportunity and inclination to indulge in speculations on the production of vegetable hybrids† should try trees of the same class and order, or if differing in this particular, such as discover a similarity in the fruit, leaf, or sensible properties of the sap and wood, &c. Grafting is performed by making an operation upon the wood of the stock, to which is attached the cut of a twig from another tree, both wood and bark, with an indefinite number of buds.* Tho' March and April are the usual months for grafting, it may be protracted till May, and even June, perhaps with better success than earlier; by keeping the grafts in a degree of moisture which will just prevent their withering. The stocks should not exceed the size of a large goose-quill, but if they are old, select limbs of the same size; if there be none, head down the stock and wait till they come; the grafts will be more neat and valuable for the delay. The twigs should be selected from a young healthy tree, and to be as nearly as possible of the same size with their stocks. They should be cut before the buds have begun to swell.

No other instrument is required than a sharp knife, with sufficient strength to perform the operation; a warm moist day should be preferred. Cut the stock even and smooth, split about half an inch with the knife, cut off a bit of the twig to be grafted, with one or two buds, wedge shaped, having one edge thicker than the other, fit very exactly the edges of the wood on the thick side. Then cover as much of the graft and stock as was wounded in the operation, with as much grafting wax as will exclude the air. There are other methods of grafting in the wood, but the method here laid down being the most simple and certain of success, I think it useless to describe any other. But the season of grafting is somewhat short and precious, whilst that of budding is lasting and very certain. Moreover, many trees will bud perfectly well, which will not graft at all; as the mulberry, &c. Budding or inoculation is the very simple art of ingrafting one tree on another; by making an incision through the bark only of the stock, sufficient to make bare a small surface of the wood; while a little strip of bark containing a single bud of a size corresponding with the incision made on the stock, is fitted exactly and speedily on the spot of wood deprived of its original bark. Although midsummer is the usual time allotted for budding, it may be performed with success from the first of May, till the last of September, or even later. I think I have succeeded better in September than any month with such buds as had a sufficiency of sap to peal freely. And to insure success, I will here remark, that both grafts and stocks should at all times abound with sap. For early budding select a shoot of the preceding year's growth; but if deferred to the time usually prescribed, (say midsummer) take the best grown shoot of the same year (with good prominent buds,) something larger than the size recommended for grafting. Cut out a little billet of wood about an inch long, having the bud in the middle; now having placed it on the stock intended to receive it, mark the bark thereof with the knife at each end; thus, **I** for the more precise fitting of the strip of bark to be introdu-

*See the writings of Moses, Linneus, Darwin, &c.&c.

† There is considerable difficulty in uniting the peach to the rose; but when done, the growth is as luxuriant and perhaps more hardy than from its own root.

* See Owen's Arts and Sciences, Miller's Gardener's Dictionary, &c. &c.

† A vegetable hybrid or mule, is more expeditiously produced by grafting different genera than by introducing to each other, the blooms of the different sexes. It is a fact in vegetable, as well as animal physiology, that all mules are not barren. Thus the peach grafted to the rose, though in appearance a complete peach tree, bears roses only; nor can it be regrafted to either peach or rose. But the apple on the hawthorn is as capable of bearing fruit and regrafting as any other apple tree.

* I inserted some apple grafts about the middle of last November, the wounds have partially healed, and bid as fair to do well as spring grafts—grafting may be commenced as soon as the buds begin to swell, in spring.

ced; then make an incision quite through the bark without materially injuring the wood.—Thus I now raise the bark with the thumb nail or point of the knife, and instantly apply the bark containing the bud, which may be conveniently separated from its wood by the thumb nail or point of the knife. Perhaps the operator will find it more convenient to cut out the billet opposite to the chosen bud. Thus the twig will now serve as a kind of handle to turn off the bud with more despatch and safety. But whatever method may be chosen for separating the bud, no time should be lost after having it adjusted, till it be close tied on with a woollen string, sufficiently strong for the purpose. Observing to wrap above and below the bud neatly, without compressing the bud itself. The strings should be smeared with grafting wax, which will make them better to tie, exclude the air, and remain sound for future operations. An evening or moist day should be preferred for this method of grafting also. One week is sufficient for the strings to remain, for if the buds have not effected their union in that time, they never will. If they do not appear withered at the time of removing the strings or shortly thereafter, it may fairly be presumed they will live; but if withered, the stocks may be forthwith rebudded. All the writers I have read on budding, state that the buds do not put out till the succeeding year! until Mr. Andrew Knight recommenced the forcing of them by a strong ligature above the inserted buds, with the intent to check the flow of sap by them; but afterwards removes the ligatures, lest they have too much sap. This appears to me like watering a plant till it has a good start, and then withdrawing our care. After Mr. Knight has been at the trouble to remove his ligatures, he will find his initiated buds again checked, if not starved by the older branches drawing the sap from them. My method of forcing I deem to be far more simple: so soon as I ascertain my buds will live, which may be known in about a week, if the stock be small I instantly head it down, with one stroke of my knife, immediately above the bud I wish to nourish. If the stock be large, I amputate the principal branches; the consequence is an immediate bursting of all the latent buds, together with the inoculated. As the ingrafted branches multiply, I diminish the number of the original ones, till nothing remains but the new tree; nor will it be long, till "*ingens exiit ad cælum ramis felicibus arbos, Miraturque novas, frondes, et non sua poma.*"*

From this simple treatment, my buds will extend if inserted early, many feet, with numerous branches the same summer, and be prepared to produce a crop of fruit the ensuing year; nay, more strange to tell, the same year in some instances. Let the theorising orchardist who is fearful of a summer pruning, (because his books nor father's have not told him of it,) recollect what is the consequence of breaking a riding switch, or half the boughs of a tree being torn off by weight of fruit, or other accident.—Whether is death the result, or a sudden production of numerous thriving shoots, in some cases gay flowers? By the by, I think the growing season the proper time for pruning, and practise it accordingly. But whatever may be the principles of vegetable life, the buds of trees may be thus safely forced, and if they are not at some time, or other forced in the way here recommended, they will either never put out, or will put out only to starve; and the sooner they are thus pushed the better

Rees's Encyclopedia objects to the buds extending the same year in which they are inserted, on the ground that they will prove too tender to resist the shock of winter; but these fears I can assert to be groundless; the last severe spring put this matter fully to the test with me; I had the buds of apricots, almonds, white walnuts, &c. in both states many which had not put forth, were completely destroyed, while those which had made progress resisted the storm.

The persimmon, (*Diosperos Virginiana*) and walnut, &c. will receive a tarnish on the surface of the wood, in a few seconds after the bark is separated from it. This is a chemical change in the sap, caused by its coming in contact with the air, which perhaps may defeat the operation and account for failures, and for the general opinion that these trees will not succeed at all.* But to insure success the operator must use the greatest dexterity; having cut through the bark of the stock as before directed, separate the bark containing the bud to be introduced; this done, keep it close pressed (without being moved from its wood) with the thumb and finger of one hand, while the bark is raised from the stock, with the other, having the string in readiness, apply the bud and confine it according to art. Perhaps there is no tree more difficult to bud than the Persimmon; but choice kinds may be sufficiently well propagated in this way. When budding the hickorynut, persimmon, chesnut, &c. grafting wax should be applied to the bud before it is confined with the string, and as much as squeezes out between the wrappings of the string, should be pressed down with the finger or thumb, so as effectually to exclude the air; which will make the operation more sure and prevent the depredation of small worms, which are liable to infest such trees under the inserted bark. This method of waxing should also be applied to the walnut and other difficult trees. The pecan (*Carya Olivæformis*) did not appear to take so well as the walnut, but my trials where made rather late in the season. I succeeded very well in budding the chesnut (*castania esculenta*) to the dwarf chesnut or chinquepin (*Castania Pumilo,*) but from a neglect of a timely waxing had them destroyed by worms. It seems to be a prevalent opinion, that buds cannot be separated for any length of time, from the parent tree without ceasing to vegetate. I kept some cuts of the almond, peach and apricot, nearly a month in moist earth, and budded them with success. They may conveniently be preserved for a few day's journey, in wet cloth.—But unnecessary delays should, of course, be avoided. The art of budding and grafting, is particularly important in this country, where we have at command such a variety of hardy native stocks, and surplus land to devote to trees. The persimmon bears a fruit replete with sugar, which is never injured by the frosts, resists rot perhaps better than any other fruit; is a very great bearer, and will flourish without cultivation, on the poorest soils, whether of sand or clay, wet or dry. The wild plum will also grow on very poor land, and is durable; but grows too slow in general for a nursery stock: it should have attained a sufficient size previous to grafting (say three or four inches in diameter) to keep pace with the rapid growth of the peach and some plums—remembering always to insert the buds or grafts, as close as possible to the trunk, or a large limb. Under these circumstances the wild plum will be found an excellent stock for an extensive tribe of delicious fruits. The same remarks will apply to the elegant parsley leaved hawthorn when used as a stock for the apple, pear, &c.; another advantage this stock (hawthorn) also has of the apple and most of the other hawthorns, it is very hardy, little choice of soils, and is never plagued with moss, as it sheds its old bark annually.—Gentlemen, whose land abounds with these hardy native stocks (instead of considering them a nuisance,) might, by selecting the hardiest and richest fruits for grafting, with a small portion of time and expense, have a profusion of them highly important to man and beast.*

I hope the readers of the Farmer will not be illiberal in communicating the result of their enquiries to the public, to whom they owe a debt, for reading your paper, which can only be discharged with intellectual coin; and let the miser in knowledge recollect, that it is a dark body indeed, which is always imbibing light without reflecting any. Nor can I dismiss this subject without inviting the attention of the ladies thereto; if the tree of knowledge was forbid them, this book of knowledge is not. Surely to know something of grafting is more worthy of their regard, than many of the transient amusements of fashion. Human fashion, like a Proteus, ever changing; what is taste to-day is ridiculous to-morrow. But, the fashions of Nature are eternal as truth, and bestow blessings with an unsparing hand, on those who search them out! The rose will not only graft and bud well to its genus; but will take on those of a different one, by which the plain fruit tree is converted into an inimitable flowering shrub. This art being equally applicable to the propagation of flowering shrubs, as fruit trees, would

* Dr. Darwin has given the following translation of this passage:

So shall the trunk with loftier crest ascend,
And wide in air robuster arms extend,
Nurse the new buds, admire the leaves unknown,
And blushing bend with fruitage not its own.

Ed. N. E. Farmer.

* Rees' Encyclopedia says, the mulberry, fig, and walnut, will only ingraft by inarching; and Philip Miller, a very celebrated English gardener, says the apple will ingraft on none, but its own stock; but these are the mistakes of great men, I don't believe there is any tree that will bud more successfully than the mulberry: the walnut tolerably well, and from the few trials I made with the fig, I am induced to think there may be no difficulty with that. I budded some mulberry buds on the 11th of June, and by the 29th of August I measured one upwards of a foot in length, with ripe fruit.

Mr. Robert Lofton, living a few miles from Edgefield Court House, has ingrafted apple trees which he says have flourished upwards of 20 years upon a variety of indigenous hawthorn. I have been informed of another instance in the same district; and I have myself very luxuriant grafts on the parsley leaved hawthorn, which produced apples large, delicious and uncommonly sound. The most prolific source of ignorance and oppression is that of suffering great men to think for us. Crippled indeed would be the operations of nature were they controlled by the theories and conceits of the wisest man.

* In the spring of 1821, I transplanted some wild plum stocks, from 2 to 3 inches diameter, close pruned, whereon I grafted some peaches, plums, &c. I counted, in the fall of the same year, on a single graft, 228 flower buds.

add much to the flower garden. Perhaps there is no employ or amusement better calculated to wean the mind from sorrow, than this truly innocent one; and while it affords a present enjoyment, awakens the hope of more in future. After what has been written, shall I attempt an eulogy on an art, which enables us to collect from all quarters of the world (climate not forbidding) the most choice fruits, and plant them on stocks hardy and mature, capable of affording as much fruit in two or three years as the seed would yield in a dozen or more. And who can deny, from our present imperfect knowledge of grafting and the hardy hybrids producible thereby, but that trees, destined to eternal barrenness may be burthened with the produce of the palm, the olive, or the bread fruit tree? We have seen the peach "blossom as the rose;" and with our present knowledge of the principles of ingrafting, it is practicable for every moderate farmer, by devoting to the exercise of this art, the time he is wont to sacrifice to inglorious sloth, or criminal amusement; to create a paradise of fruits and flowers, where thorns and briars now grow but to curse his land.

This communication has spun out to a much greater length than I intended at the commencement; but in the progress I thought, as encyclopedias and dictionaries of arts and sciences, &c. were not accessible to all your readers, it might not be amiss to decribe the processes at length. However, if you find fault of the length, you can prune the superfluous shoots, or make any disposition of it you think proper.

I will trespass no further on your patience, than to wish you all the success your zeal has merited. ABNER LANDRUM.

AGRICULTURAL PROFESSORSHIP.

The Agricultural Society of Albemarle, Virginia, of which Mr. Madison is President, has founded a Professorship of Agriculture, at the University of that State, and voted $1000 for its support. Mr. Madison has addressed a circular to the presiding officers of different Agricultural Societies, from which, by the kindness of S. W. Pomeroy, Esq. Vice President of the Massachusetts Agricultural Society, we have been permitted to publish the following extracts:

Sir—The enclosed Resolutions of the Agricultural Society of Albemarle, explain the wish of the Society to provide for Agriculture the advantage of a Professorship, to be incorporated in the University of Virginia; the means proposed for making the provision; and the hope entertained of a general co-operation in the scheme.

The present seems to be an important crisis in the Agriculture of Virginia. The portions of her soil first brought into cultivation, have, for the most part, been exhausted of its natural fertility, without being repaired by a meliorating system of husbandry; and much of what remains in forest and can be spared from the demands of fuel and other rural wants, will need improvement, on the first introduction of the plough.

These truths are now sufficiently impressed on the public attention; and have led to the establishment of the Agricultural Societies among us, which are so laudably promoting the work of reform.

As a further means of advancing the great object, it has occurred to the Albemarle Society, that a distinct Professorship in the University of the State, if sanctioned by the proper authority, might be advantageously appropriated to the instruction of such as might attend, in the theory and practice of rural economy, in its several branches.

To the due success of agriculture, as of other arts, theory and practice are both requisite.—They always reflect light on each other. If the former, without the test of the latter, be a vain science; the latter without the enlightening precepts of the former, is generally enslaved to ancient modes, however erroneous, or is at best but too tardy and partial in adopting salutary changes. In no instance, perhaps, is habit more unyielding, or irrational practice more prevalent, than among those who cultivate the earth. And this is the more to be lamented, as agriculture is still so far below the attainments to which it may fairly aspire.

A professorship of agriculture might derive special advantage from the lights thrown out from the chair of Chemistry in that Institution. This science is every day penetrating some of the hidden laws of nature, and tracing the useful purposes to which they may be made subservient. Agriculture is a field on which it has already begun to shed its rays, and on which it promises to do much towards unveiling the processes of nature to which the principles of agriculture are related. The professional lectures on chemistry, which are to embrace those principles, could not fail to be auxiliary to a professorship having lessons on agriculture for its essential charge.

The fund contemplated for the support of such a professorship, is to consist of a sum drawn from unexpended subscriptions, from special donations, and from a diffusive contribution not exceeding a dollar from an individual. It is hoped, that for a purpose of such general utility, the number of contributors will more than make up for the smallness of the respective sums; and that with the other resources, means may be gathered not only adequate to the immediate views entertained; but justifying an enlargement of them.

Should this prove to be the case, it will be an improvement of the plan of agricultural instruction, to provide and place under the superintendance of the Professor, a small farm in the vicinage to be cultivated, partly as a pattern farm illustrating practically a system at once profitable and improving, partly as an experimental farm, not only bringing to the test new modes of culture and management, but introducing new plants and animals deemed worthy of experiment. In obtaining these, aid might be found in the patriotic attention of the public and private Naval Commanders, in their visits to foreign countries; and it might well happen that occasional success in rearing new species of varieties, of peculiar value, would yield in seeds and stocks a profit defraying the expences incurred on this head.

A farm exhibiting an instructive model, observed as it would be by occasional visitors, and understood as it would be in its principles and plans, by students returning to their dispersed homes, would tend to spread sound information on the subject of agriculture, and to cherish that spirit of imitation and emulation which is the source of improvement in every art and enterprize.

Agricultural Society of Albemarle, Oct. 7, 1822

On the motion of Gen. John H. Cocke, the following Preamble and Resolutions, were adopted:—

Whereas, the establishment of a Professorship of Agriculture, in one of the principal seminaries of learning in this State, is a measure eminently calculated to hasten and perpetuate the march of agricultural improvement, already so happily commenced; And whereas, there are grounds to believe that such an institution may be incorporated into the University of Virginia, a position at once the most advantageous and convenient to every part of the State: And whereas this Society could not make an appropriation of its funds more conducive to the permanent attainment of the primary objects of its institution—and as it is reasonable to expect that all the Agricultural Societies, the Farmers and Planters generally, will cheerfully contribute to an Establishment of such universal interest—Therefore

Resolved, That one thousand dollars of the sum, now in the hands of the Treasurer of this Society, be appropriated to the establishment of a Fund, the profits of which shall go to the support of a Professorship of Agriculture at the University of Virginia.

Resolved, For the furtherance of this design, that the President be requested to prepare an address to the other Agricultural Societies of this State, requesting their co-operation in this scheme—and further to promote the same object, and increase the said fund, that a committee be appointed to solicit donations not to exceed one dollar from individuals in every part of this Commonwealth.

Resolved, That the aforesaid appropriation, together with all that may accrue under the foregoing Resolutions, be loaned to individuals on good personal security, or to corporate bodies; and that when the sum loaned to any one individual shall amount to one thousand dollars or upwards, landed security shall be required: That the interest shall be payable semi-annually, and shall be reinvested, until the yearly profits of the Fund shall be sufficient to afford an income equal at least to a Professorship in the University.

Resolved, That the funds above referred to, together with donations of books, and property of any other description, be with the permission of the Legislature transferred to the Rector and Visitors of the University in their corporal capacity. (*Extract from the minutes.*)

P. MINOR, *Sec'ry.*

From the Philadelphia Democratic Press.

On Tuesday night the audience at the City Theatre were exceedingly amused by the representation of "Modern Honor." The laughter was loud, long and oft repeated; nay sometimes shouts of applause were heard. The use of cologne water to soften the hands, of oak bark to make the skin bullet proof, and the lutestring dress to render the person invulnerable, were all duly served up with appropriate dialogue and action. The squatting and dodging was performed by Sambo Puffy and Cæsar Huffy, valets to Col. Bombastes Puffy and the Hon. Mr. Huffy. The song of "Oh cruel am de Bullet Ball," was encored; the whole piece was well received and was given out for a second representation amidst shouts of applause.

COMMUNICATED FOR THE NEW ENGLAND FARMER.

SUN FLOWER OIL.

It appears from experiments made formerly in this State, that a bushel of Sun-flower seed, yields a gallon of oil, and that an acre of ground planted with the seed three feet apart, will yield between forty and fifty bushels of the seed. This oil is as mild as sweet oil, and is equally agreeable with sallads, and as a medicine: It may also be used with advantage in Paints, Varnishes, and Ointments. From its being manufactured in our own country, it may always be procured in a fresh state. The oil is pressed from the seed in the same manner, that cold drawn linseed oil is obtained from flaxseed, and with as little trouble. Sweet oil sells for *six shillings a quart*. Should the oil of the Sunflower sell for only two thirds of that price, the product of an acre of ground, supposing it to yield only forty bushels of the seed, will be £32,—a sum far beyond the product of an acre of ground, in any sort of grain. The seed is raised with very little trouble, and grows in land of moderate fertility. It may be gathered and shelled, fit for the extraction of the oil, by women and children.

Various uses of the Helianthus annus, or common Sunflower. Translated from a Portuguese work, entitled 'Biographia dos alkalis fixos,' published in 1798 at Lisbon, by Jos Mar. Da Corse Jeillose.

1. The sprouts are eat with oil and salt.

2. Bread is made from its seeds, and also gruel for children.

3. Some American nations eat the seed.

4. The seed gives oil for several uses.

5. It fattens fowls.

6. Its leaves are excellent food for cattle in summer, and increases the quantity of milk in cows; they are easily gathered, being of a large size, the inferior are to be first gathered.

7. They are also good for sheep.

8. Its stems can be used to support climbing plants, instead of poles.

9. They serve for fuel. An economist of Frankfort found them as good as willow wood for this use. He planted two acres and a quarter, and by that he saved in a winter, thirty dollars, and had oil worth twenty-eight dollas.

10. Lastly, they furnish excellent ashes. The seeds when roasted have the flavour of coffee, and the infusion of them in the manner of tea, is a pleasant beverage.

From the New York Evening Post.

We lately saw in the English papers, an account of a marvellous discovery in the art of tanning. It is stated in the London Globe that the discoverer sold his secret to a member of parliament for 10,000*l.* in hand, 5,000*l.* on the first of January, 5,000*l.* per annum for four years next succeeding, and afterwards, 11,000*l.* a year for life. The following articles from the Liverpool Mercury, however, contains a satisfactory disposal of it.

LEATHER TRADE.

To the Editors of the Liverpool Mercury:

Gentlemen,—I lately observed a paragraph in your independent paper, announcing that a discovery had lately been made "to tan leather in six weeks that usually requires twelve months, at less than half the expense."

The moment I read it, I declared it must be a fable; but, for curiosity's sake, I was resolved to trace it, if possible, to its source. This I have done, and find it quite as fabulous as I thought, though I must do the authors, (who are respectable, and treated me with every civility,) the justice to acquit them of all wilful misrepresentations: but I have since every reason to believe that the rumours in question alluded to our manufactory at Dorking, wherein, (according to advertisements) crop hides are tanned in four months instead of sixteen, without greater expense than oak bark, averaging 8 lb. each above the raw halves or standard.

Knowing, gentlemen, that you never wilfully give the smallest countenance to idle and fallacious rumors in your columns, I have felt it my duty to address you upon this matter, being convinced that you are always ready to correct misstatements, by giving them equally public contradiction.

Having observed some remarks published last May, in the British Traveller, also respecting our manufactory at Dorking, we take this opportunity to add a few plain facts, proving the value and utility of our most providential discovery to the trade, to the revenue, and to the nation.

Suppose a tanner turns out 100 cow hides per annum, of 80 lb. each, making them weigh 40 lb. each when tanned, according to the rules of the old trade (confirmed by Mr. John Underhill, acting chairman of the committee of the Leather-Trade, at Bermondsey, as advertised in the *Times* of the 27th May last) viz. "that 2 lbs. of raw hide are required to make 1 lb. of leather." Such common tanners may be enabled by the use and knowledge of our process (which is both cold and vegetable) to tan 3000 similar raw hides in one year, making them weigh, on fair average, 8lbs. each above the raw halves, thus creating 24,000 extra weight of leather! which, at 1s 6d. per lb. is 1800*l.* per annum additional profit.

Computing the Excise Duty, as lately submitted to the House of Commons, at 655,424*l.* 1s. 8d. per annum, the weight of leather is above fifty millions of lbs. and one-sixth increase of weight (as described above) nearly nine millions of lbs. at 1s. 6d, per lb. is no less than 675,000*l.* per annum, derivable by the trade and the public; and if the old duty had not been half repealed, the revenue would have benefited 109,166*l.* per annum, or 54,583*l.* at the present rate of duty.

But duly considering the great advantages of weight alone, it would have been impolitic to repeal the old duty, as the tanners might have been placed better than duty free, while the revenue itself would then have really been about 437,000*l.* more than it is now, and thus (upon moderate calculation) above one million sterling may be annually saved.

I deem all further remarks superfluous, except that I hope every editor who copied the fabulous paragraph will feel it a duty due to the British Leather Company, and to the public, to follow it, by inserting this letter likewise.

I am with due respect, sir, your most obedient servant.

JOHN BURRIDGE, Secretary.

Fuller's Earth.—A gentleman at Sag Harbor, Long Island, forwarded to us sometime since a box of fuller's earth, from a bed which he owns; we put it into the hands of two experienced fullers who have pronounced it to be of an excellent quality.

Connecticut Gazette.

FACTS AND OBSERVATIONS RELATING TO

AGRICULTURE & DOMESTIC ECONOMY

FOR THE NEW ENGLAND FARMER.

SALT AND MILDEW.

A correspondent writes us word, that when this subject was mentioned before (1819) he tried salt water for the prevention of this disease, which was then prevailing on his crop; but it had no effect in staying the progress of the disease, and eventually the straw became quite black. As he states that he tried this but *on a patch*, and took great pains, it seems to follow that such a sprinkling as whole fields could obtain would be entirely useless. We state these facts, as our duty is to prevent delusion, and thoroughly to canvas the merits of a very imposing claim to public gratitude.

Farmers' Journal.

DAMP IN WALLS.

An easy and efficacious way of preventing the effects of damp walls upon paper in rooms has lately been used, and (as we understand) with complete success. It consists of lining the wall, or the damp part of it, with sheet lead, purposely rolled very thin; this is fastened up with small copper nails, which not being subject to rust are very durable, and the whole may be immediately covered with paper. The lead is not thicker than that which is used in the chests in which tea is imported, and is made in sheets, of which the width is about that of common paper hangings.—*ibid.*

POWER OF THE HORSE.

The couriers of Russia travel from Petersburgh to Tobolsk, a distance of 19 deg. 26 min. in twelve days. Their rate of travelling is of course about one hundred miles a day. What, in equestrian phrase, is called a great mover, will, without pressing, trot 640 yards in eighty seconds.

DENTIFRICE.

Take sage and salt, of each a like quantity, and pound them together; then bake the mixture till it be hard, and make a fine powder thereof, then therewith rub the teeth evenings and mornings, and it will take away all yellowness.—*Markham's English Housewife.*

FEEDING COWS WITH CABBAGES.

When cabbages are given to milch cows, the decayed and musty leaves must be taken off, or they will impart a bad taste to the milk and butter.

TO MAKE POMONA WINE.

The directions published by Mr. Cooper, of New Jersey, for making wine of cider and other ingredients, which may properly be called *Pomona Wine*, are as follows.—"Take cider of the best running of the cheese, and of the best quality, and add to it as much honey as will make the liquor bear an egg; strain the liquor through a cloth as you pour it into the cask; fill the cask full, with the addition of two gallons of French brandy to a barrel; set it away in a cool place, with the bung-hole open to ferment; as the fermentation proceeds, it will throw out considerable froth and filth; keep filling it frequently with more of the same kind of liquor, kept for the purpose, till the fermentation has nearly subsided; then put in the bung,

but not tightly, in order that the liquor may have some further vent, and as soon as the fermentation ceases, close up the vessel. The next spring rack off the liquor into a new clean cask; and in order to clarify it take the whites of six eggs, with a handful of fine beach sand, washed clean; stir them well together; then boil a quart of molasses, and cool it by pouring in cider, and put this together with the eggs and sand into the liquor, and stir the whole together."

The Farmer's Assistant says, "It is believed that about a quart of sweet milk to a barrel, well stirred and mixed with the liquor as it is poured in, will answer equally well, perhaps better. This operation alone will not only clarify liquors, but by repeating it several times, the highest colored wines may be nearly or quite divested of all their color."

"After the liquor has been thus clarified, let it be again drawn off into bottles, or into fresh clean casks, and kept in a cool cellar for use. Age, however, is essential for perfecting this kind of wine, as well as all others."

CARBONIC ACID GAS, OR FIXED AIR, NECESSARY IN CIDER.

It is well observed in the Domestic Encyclopedia, that "it is of great consequence to prevent the escape of the carbonic acid, or fixed air from cider, as, on this principle, all its briskness depends. To effect this, various expedients have been contrived. In the state of Connecticut, where much cider is made, it is a common practice to pour a tumbler of *olive* oil in the bung hole of every cask. Upon the same principle we have lately heard of a man who boasted that he had drank brisk beer out of the same cask for *five* years, and that his secret was to cover the surface of the liquor with olive oil. Dr. Darwin also says that he was told by a gentleman who made a considerable quantity of cider on his estate, that he procured vessels of stronger construction than usual, and that he directed the apple juice, as soon as it had settled, to be bunged up close, and that though he had had one vessel or two occasionally burst, by the expansion of the fermenting liquor, yet that this rarely occurred, and that his cider never failed to be of the most excellent quality, and was sold at a great price." Probably casks filled with fresh cider, bunged up tight, and sunk under water or buried in earth, might run no risque of bursting, and no doubt the cider kept in that way would be well preserved, and in time properly fined.

VARNISH FOR IRON OR STEEL.

The Nantucket Inquirer states that "A permanent varnish is obtained by rubbing iron in a state nearly red hot, with the horny hoofs of cattle, which are previously dipped in a small portion of oil; this process is asserted to afford the best defence from the destructive influence of air and humidity."

PATENT HORSE SHOES.

Col. Goldfinch, of Hythe, (Great Britain,) has obtained a patent for a new method in the formation of horse-shoes. The improvement consists in making the horse-shoe in two parts, or separating it in two pieces, by cutting it through near the toes. The object of the contrivance is, that the frogs of the horse's hoof may be enabled to expand and grow in a healthy state. The separation is to be made in an indented form, and the two parts fastened together by pins. It is further proposed to attach the shoe to a horse's hoof, by driving the nails obliquely, as in the French manner of shoeing. For this purpose, the situations of the nail holes are to be from about one third to half the width of the shoe distant from its outer edge, and tending in a slanting direction outwards.

Evening Gazette.

FARMING—CHEMISTRY.

Leland, in his Memoirs of the celebrated French chemist Lavoisier, states, that he cultivated 240 acres of land in La Vendee, on chemical principles, in order to set a good example to the farmers, and his mode of cultivation was attended with so much success that he obtained a third more of crop than was obtained by the usual method, and in nine years his annual produce was doubled.

SMALL CATTLE OFTEN THE MOST PROFITABLE.

[From Anderson's Recreations.]

"Take a mastiff, a grey-hound, and a shock dog, whose weights are respectively sixty, thirty, and fifteen pounds each.

"If I have been rightly informed, the quantity of food required to keep these dogs in good condition would be, nearly, for the mastiff, one pound; for the greyhound one pound; for the shock dog three ounces, a day. Of course, one hundred pounds of food would nourish of mastiff flesh six thousand pounds; of the greyhound ditto three thousand pounds; of the shock dog ditto to about eight thousand pounds; so that the loss in employing the second, when compared with the first, would be as two to one; and that of employing the second, when compared with the third, would be as two and three-fourths to one nearly.

"The above statement is not given as being absolutely accurate, but merely as illustrative. And as something of the same kind, though not perhaps to an equal degree, takes place between different breeds of cattle as of dogs, it is not a matter of such simple calculation as it has been usually supposed, to ascertain whether it will be the most beneficial in a particular case to adopt a large or small breed of cattle. It is, indeed, impossible that it ever can be done in that general lumping way; for, if ever the real qualities of different breeds shall come to be accurately ascertained, it will, doubtless, be found, that they vary in regard to so many particulars, that perhaps no one rule can ever be made general, because, from the peculiarities of the case and the nature of the circumstances, it may sometimes happen that a large breed may be preferable to a small one, or *vice versa*; and that, by a very small variation of circumstances, the case may be reversed. But if two breeds could be found that were equal in all respects, there are many circumstances in which the small would be preferable to the large.

"In the first place, a small animal, if put upon pasture fields where the surface is a little soft, will be more easily supported than one of larger weight, and not be so apt to poach it.

In the second place, there are innumerable situations in which small beasts will be much better suited to the accommodation of a family than a larger, or in which it would be more desirable to have three or four instead of one. Many a poor person would have abundance of food for a small cow, who could not possibly maintain one of a larger size; and the quantity of milk that such a cow would yield may be exactly suited to the wants of the family, where a larger quantity would only prove distressful. Persons in moderate circumstances too, where the risk is divided, are much less in danger of being thrown into distress by deaths, than they would be if all were in one; and, as the cows may calve at different times, they are less in danger of being totally deprived of that useful article milk, at one time, and of having it in too great quantity at another. The supply becomes more equal; they never experience either superfluity or want. In like manner, a family that lives in the country, if it be moderately large, can easily consume a *small* beast of their own killing, whereas a large one proves distressful to them; one half of it must be eaten before it is fit for use, or a great part of it must be thrown away as being tainted. Every person in such circumstances must know, that three or four small beasts would be, to them, of more than twice the value of one that was equal to them in weight.

Lastly, small beasts will always find a ready market, and will usually bring a higher price in proportion to their weight, than large. The very reasons already assigned bring more purchasers. Is it for milk? How many more can reach the price of a small cow than a large one! Is it for rearing? How many have keep for a small one, that could not have it for one of a larger size! Is it fat, and for the butcher? Perhaps in Smithfield market it may make little difference; but in other places there are many who will choose the small in preference to the large. All this is on the supposition that the meat is of an equal quality in both cases; but if it should happen, that the small meat is also finer and more delicate than the large, the difference in its favour would be still more considerable.

"From these considerations it appears, that the mere *size* of a breed of cattle is not a matter of indifference; and particularly, that those of a diminutive size ought not to be rejected with contempt, as they too often seem to be. They ought rather to have their qualities carefully investigated; because, as we have evidence in the dog species, that some small kinds possess excellent qualities which cannot be found in any that are of a larger size, it may so happen, that similar valuable qualities may be found to peculiarise some of the smaller breeds of cattle. They, therefore, deserve our particular attention; for if any of them shall be found to be truly valuable, they will tend more to augment the comforts of those who are among the most helpless individuals of the community than any other, while they may at the same time add to the luxurious dainties with which the tables of the rich, though plentifully loaded, are not yet by them deemed to superabound."

BUTTER.

This delicate and valuable domestic article, it is known, is manufactured in considerable quantities in Orange county. At a recent cattle show at Goshen, it appeared that John M. Graham made 2535 lbs. of butter from 20 cows.—His farm is only 95 acres; he has 39 hogs kept on milk, which will weigh 200 lbs. each, when killed. Col. Moses Crawford, of Montgomery, produced 2051 lbs. of butter from 20 cows.

From the New-York Statesman.

American Hats.—Two fine specimens of domestic fabric—the one a bonnet and the other a gentleman's hat made of the spear-grass—have been politely forwarded to us, and may now be examined at this office. These articles were manufactured by Miss Mary Lamb, of Stamford, Delaware county, a young lady of the age of fifteen, who informs us, that she received no other instructions than were derived from the columns of the Statesman. Her own ingenuity supplied the rest. As the hat was presented to one of the editors of this paper, we hardly dare to speak of these beautiful fabrics in the manner they deserve, lest our opinion in this case should be supposed to be warped by undue biases.—We may at least, however, record the judgment of others, who have pronounced them equal to the best imported Leghorns. It is to be regretted they did not arrive in season for the Fair in this county, and to have been offered for premiums. Miss Lamb, in a polite note accompanying these articles, states "that there is plenty of grass of all sizes on the banks of the Delaware, and willing hands to work it up, could they but meet with a little encouragement." We hope and trust such encouragement will never be wanting in an enlightened community, whose interest it is to promote female industry. The association lately established in this city for encouraging domestic manufactures, and who are to hold stated Fairs, will be of great service, by becoming the depositories of ingenious fabrics from remote parts of the state, and in cases where the owners cannot be present to superintend the exhibition and sale of their commodities.

We cannot conclude this brief notice, without publicly acknowledging the high compliment paid us by Miss Lamb. Such an honor was as unexpected as it is flattering. A more acceptable present could not have been received. Composed as it is of materials gathered from the fields of our own country, and woven by the hand of one of her ingenious and patriotic daughters, we shall value it more highly than the most splendid fabrics imported from foreign lands; and while it shall shade the brow from the sultry suns of summer, it will be a memorial to cheer us with the recollection of our past exertions, and stimulate us to renewed efforts, in the great cause of national industry.

From the same paper.

Domestic Manufactures.—Our attention has been called to an extensive chemical manufactory, in the village of Greenwich, for the preparation of the following among other articles: Alum, Blue Vitriol, Oil Vitriol, Aq Fortis, Spt. Nitri Fortis, Nitric Acid, Muriatic do. Alcohol, Æther, Vitriol, Tartar Emetic, Refined Camphor, do. Salt Petre, do. Borax, Corrosive Sublimate, Calomel ppd. Red Precipitate, Spts. Nitri. Dulc. do. Sal Ammon Fortis, Aqua Ammonia, Flowers Benzoin, Calcined Magnesia, Rochelle Salts, Glauber's do. Sal. Soda, Super Carbonate of Soda, and Tartaric Acid. This manufactory is already in a flourishing condition; but to give it increased facilities and to warrant its extension, notice has been given, that application will be made for an act of incorporation, at the approaching session of the legislature. An establishment so deserving of public patronage and the fostering care of the state, needs no arguments to enforce its claims. The chemical substances prepared in this manufactory are pronounced to be fully equal to the best importations; and as many of the articles above enumerated are expensive, and extensively used in medicine and the arts, it is obviously for the interest of the country to encourage the enterprise and industry of its own citizens, and retain at home the funds, which now go to other nations for the purchase of these commodities.

Judge Pettibone, of St. Charles, Missouri, in digging for water, has discovered Stone Coal of a superior quality, and it is thought of inexhaustible quantity.

THE FARMER.

BOSTON:—SATURDAY, DEC. 7, 1822.

ON SAVING AND MAKING THE MOST OF MANURE.

(*Continued from page* 135.)

In our last number on the subject of these essays, we gave brief sketches of some of the principal theories which philosophers have from time to time adduced, and endeavored to support, relative to the food of plants. We likewise attempted to point out defects in those theories, and gave some reasons for entertaining a preference for the hypothesis of Sir Humphry Davy, which is, in substance, that no one kind of matter can be considered as furnishing the food of plants, but that vital air, [oxygen] charcoal, [carbon] inflammable air, [hydrogen] and that kind of gas or air, which forms a great part of the atmosphere, and which is not respirable, and will not support combustion, and is called azote, [nitrogen] form the principal sustenance of plants. It is true that other substances are found in plants by chemical analysis, but some of those substances are, probably, accidentally introduced, and others though generally esteemed simple bodies, are most likely to turn out compounds, whenever chemical analysis shall be carried to the degree of perfection which some modern discoveries appear to promise.* "The four earths (viz. clay, sand, lime and magnesia) the various acids, the alkalies, the oxids of iron and magnesia, and several saline compounds, all find their way, through the medium of the sap either suspended in it mechanically, or combined with it by chemical affinity, into the heart of the organized structure. I am not certain whether it be very correct, in point of language, to describe these as constituent parts of the food, because they are detected in plants on inceneration, and other modes of analysis, any more than it would be warrantable to call lime, phosphorus, sulphur, and a multiplicity of acids constituent parts of animal food, on the simple ground of their being found in the bones and secretions of the body; so that the common doctrines of exalting whatever may be yielded on analysis into the pabulum of vegetation, is both questionable and dangerous philosophy, and the rather, because it is a known fact that ashes of many plants abound with substances predominating in the soil that produced them. We shall, in all probability, come nearer to the truth, by considering the putrescible manures, and the sap only, as the elements of food; and the other bodies as subservient, though in a less degree, to the health, solidity, strength, or the right performance of the vegetable functions."†

Carbon, oxygen and hydrogen, being the constituent substances which make up the various products, formed by the wonderful process of vegetation, it may be considered as but little short of a perpetual miracle that so many and such diversified ingredients should be the results of different modifications of those two or three simple elements. Sir Humphry Davy states that "the compound substances found in vegetables are 1. gum, or mucilage, and its different modificatons; 2, starch; 3, sugar; 4, albumen; 5, gluten; 6, gum elastic; 7, extract; 8, tannin; 9, indigo; 10, narcotic principle; 11, bitter principle; 12, wax; 13, resins; 14, camphor; 15, fixed oils; 16, volatile oils; 17, woody fibre; 18, tannin; 19, alkalies, earths, metallic oxides and saline compounds." These substances, many of which appear to possess qualities diametrically opposite, are, notwithstanding, composed of the same elements, but in different proportions.

Thus 100 parts of sugar contain	28 carbon, 8 hydrogen, 64 oxygen.
	100
100 parts of acetic acid or vinegar, contain about	50 carbon, 6 hydrogen, 44 oxygen.
	100
100 parts of olive oil about	77 carbon, 10 oxygen, 13 hydrogen.
	100
100 parts of the wood of oak about	52 carbon, 42 oxygen, 6 hydrogen.
	100

* Although the elements which constitute the greatest part of organized vegetable matter are oxygen, hydrogen, and carbon, yet a little nitrogen or azote is found in some of the products of vegetation, such as albumen, gluten, &c. But "from some late experiments it seems probable that *nitrogen is not a simple substance.*—See Phil. Mag. vol. xxxiii, p. 173. Indeed the experiment of Dr. Priestly, by which he procured several portions of nitrogen from the same distilled water, by repeatedly freezing it, seems to confirm this opinion.—See Nicholson's Journal, 4 to. vol. iv, p. 137. But the novel experiments of Sir Humphry Davy are more to the purpose. From these it would appear that *nitrogen is a compound of hydrogen and oxygen.*—See Phil. Trans. for 1809. Priestley conceived it to be a compound of oxygen and phlogiston.—See his pamphlet entitled 'Experiments and Observations relating to the Analysis of Atmospheric Air, &c. 1796, p. 11."—*Parkes's Chemical Catechism, p.* 47, 10*th ed.*

It seems then, that although some vegetables exhibit, on chemical analysis, nitrogen, as well as carbon, oxygen and hydrogen, yet, as the first mentioned is only a compound of the two last, we may omit it in our tale of the chemical products of vegetation, except when, in common parlance it may be convenient to retain a term in common use. Moreover, the oxygen and hydrogen found in vegetables are, we believe, generally, combined in the proportions, which constitute water. Of course carbon and water compose nearly the whole substance of vegetable matter; the carbon being, for aught that yet appears, a simple substance, and the water a compound of oxygen and hydrogen. Here we have a further approximation to M. Braconnet's theory, (as stated No. 17, p. 134,) that "oxygen and hydrogen, with the assistance of solar light, appear to be the only elementary substances employed in the constitution of the whole universe." If carbon, like nitrogen, can be resolved into oxygen or hydrogen, or a compound of both, or can be supposed to be compounded of "solar light" and oxygen and hydrogen, or either of them, we have M. Braconnet's theory advanced another step towards proof positive. M. Braconnet's vegetables obtained various earths, alkalies, acids, &c. either from atmospheric air, which consists of oxygen and azote, with a minute quantity of *carbonic acid*, or from water (oxygen and hydrogen.) The carbon found in them by analysis might be taken from the carbonic acid gas of the atmosphere. The other products thus found, it should seem, *must* have been derived from distilled water, or pure oxygen and hydrogen.

† Letters of Agricola.

100 parts of albumen from the white of the egg about
53 carbon,
24 oxygen,
7 hydrogen,
16 nitrogen.
100*

Nitrogen is rarely found in vegetables, but "the principal part of the almond, and of the kernels of many other nuts, appears from the experiments of Proust, to be a substance analogous to coagulated albumen, or white of an egg."

The above are the principal elementary substances which enter into the composition of all vegetables. Those of animals are nearly the same, the only material difference consisting in the uniform presence of nitrogen in animal matter. When vegetables are growing they imbibe or make food of these substances either by their leaves or their roots, but principally by the latter. Any thing that has ever breathed or vegetated, that has or ever had lungs or leaves, may constitute manure or the food of plants. The moment that animal or vegetable life is extinct in any individual of either of those kinds of beings, the process of decomposition (in the ordinary temperature of the atmosphere) commences. This decomposition is effected by putrefaction, which is more or less rapid, according to the temperature of the atmosphere, and other circumstances, more or less favorable to the dissolution of the decaying body. Putrefaction, however, cannot take place without the aid of water and air; and caloric, (or that matter which communicates to us the sensation of heat) is likewise an indispensable requisite of this process. During the progress of fermentation, however, not a particle of the decaying substance is annihilated, but the minute and invisible atoms of carbon, oxygen and hydrogen, which formed the body which is decomposing, are unlocked or unclenched, or otherwise set at liberty; and are ready to enter into new combinations. These particles or atoms† every good farmer will, as far as possible, arrest and convert to the use of his plants, by means which have been heretofore in part explained, and will be further elucidated hereafter in the course of these essays.

We have now given a few brief and imperfect sketches of some subjects connected with agricultural chemistry, partly with a view to render the topics of which we are treating more intelligible than would otherwise be possible, and partly with a hope of turning the attention of the young agriculturist to a science, which is almost as necessary for a farmer, as a knowledge of arithmetic for a merchant or accountant. We will conclude this number with some reflections quoted from the celebrated "Letters of Agricola," which may perhaps suggest a new and useful *train of thought* to some of our readers.

"One is not able to contemplate the putrefactive process, and the uses it serves in the vegetable kingdom, without being struck with this admirable contrivance of Divine Wisdom to remove from our sight the putrid remains of animal and vegetable bodies, and change them into new and nutritious forms. The beauty of the universe would have been much marred, and our senses continually offended, without this expedient of putrefaction which sweeps away all trace of former organized beings, by converting them into pure and uncontaminated gases. These retain no tincture of their former corruption, and are ready to enter into new bodies invested with all the attributes of healthful, enlivening and agreeable existence. The vegetables cooked for our table, the butcher-meat under which it groans, are no other than new combinations of those putrid and nauseous steams, which, in the act of passing off, assailed our nostrils with ungrateful odours. The dunghill which the farmer carts to the neighbouring field, returns to him at harvest in the shape of useful roots or yellow sheaves, free from all polluted admixture, and refined from the dross in the elaboratory of vegetation. I know no indication of greater skill in the Divine Intelligence, nor a more indubitable mark of his care and goodness, than this contrivance of resolving all dead animal and vegetable matter into elementary principles; that, in the first place, he might relieve the earth of such loathsome incumbrances, and in the next place, be supplied with fresh materials out of which to form and sustain the new and successive families of plants.—In a similar manner the excrementitious matter passing from man and all other animals is disposed off. In the form of manures, it is buried in the ground, which absorbs all its noxious effluvia; and in place of exciting in us revolting sensation, it becomes the most powerful restorative of our exhausted fields. There it is decomposed by the solvent powers of heat and water, and supplies abundance of nourishment to the grasses and corn vegetating over it."

(TO BE CONTINUED.)

A singular instance of Hydrophobia.—A boy about 11 years of age, whose name was Isaiah Kendrick, in going after the cows of Mr. Gregory Stone, of Lincoln, Mass. passed a pair of bars, in or near a piece of wood land, and saw a Racoon, which instantly flew at the lad, caught him by the thumb and held fast. The boy's cries were heard by Mr. Stone, who ran to his relief; but he was unable to rescue the boy from the jaws of the animal, till he drew his knife, and cut the throat of the racoon. In six weeks from that date, the boy was taken with madness, died on the 29th ult. and was buried on the 1st instant.—*Communicated.*

FARMER SUMMARY
OF FOREIGN AND DOMESTIC EVENTS.

Lieutenant Commandant ALLEN of the United States' Navy has fallen in a contest with pirates. A letter from Havana, giving an account of his death, states that "This brave man fell in an action against the pirates on the 10th inst. in the Bay of Siguapa, about 50 miles north of Matanzas, after a most desperate engagement, which terminated in the capture of the principal piratical vessel, a beautiful schooner of about 80 tons, mounting one long 18 pounder and four other guns, and the recapture of 5 American vessels. The Alligator [the vessel commanded by Capt. Allen] lost in the engagement two sailors killed, two mortally wounded, and three slightly wounded." Capt. Allen was buried at Matanzas, and every respect shewn by the public authorities and inhabitants, which was suitable to the melancholy occasion.

The Prize of a Silver Cup, offered for the best poem, which might be composed on the occasion of opening a new building for a theatre at Philadelphia, has been awarded to Mr. CHARLES SPRAGUE of Boston, who was the successful competitor for the prize medal at the opening of the New-York theatre about 12 months since.

Northern Cotton.—Mr. William Ladlew, of Oyster Bay, (L. I.) has sent us a fine cotton plant, well stocked with full bolls, which are now opening in the reading room of the Commercial Advertiser.—*N. Y. Specta.*

The Western Monitor, (a valuable newspaper printed at Lexington, Ken.) of the 12th ult. gives notice that a Mr. Thomas Pullen, of Bourbon County, has exhibited a newly invented machine for dressing hemp and flax, by which "the anticipations of the public were fully realized."

A London paper states that upon Mr. Rhodes' Estate, near Islington, the foundations are laying for the erection of two thousand seven hundred houses. Mr. Rhodes is one of the most extensive cow-keepers in the vicinity of London, and a very considerable portion of the metropolis is supplied with milk from his dairies. This is a great story, even if the houses are cow-houses, of small dimensions.

Chilicothe Twin Calves.—A Chilicothe paper tells of two twin *Calves*, a steer and an heifer, *seven years old*, owned by George Remick, Esq. of that neighborhood. The steer weighed alive, *two thousand nine hundred & ninety-six pounds.* The heifer is nearly as large as the steer, and is supposed by good judges to weigh within 200 pounds as much, but as she appeared somewhat wild, it was deemed unsafe to weigh her.

A machine for the dressing of cloth has lately been erected in Leeds, (Eng.) which, according to an English paper, does as much in forty-five minutes as two men could do in two days.

An English paper states, that, by the late population report, there are in England 57, in Wales 3, and in Scotland 40 men 100 years old and upwards—Of women there are in England 111, in Wales 18, in Scotland 62, 100 years old and upwards. By a statement in the New-Hampshire Patriot, it appears that 75 persons have died within that State, since 1732, who had attained the age of 100 years and upwards; of these, one reached 120, another 116, and a third 115 years; and there are still living in that State the following persons who are more than 100 years of age, viz. Tryphena Stiles, of Somersworth, 101; Sarah Kelley of New-Hampton, 103; Mrs. Bailey, of Chesterfield, 101; Mary Barnard, of Amherst, 101; and Samuel Welch, of Bow, in his 113th year.

Fisheries of Lake Superior.—It is stated in the Detroit Gazette that fishing upon an extensive scale has commenced on Lake Superior, and that one man has already taken two hundred barrels.

A gentleman in Bennington, Vt. has raised a crop this season, on six rods of ground, for which he received 124 dollars and 68 cents, cash.

Caution.—Some of the notes of the Farmers' Exchange Bank, Gloucester, (R. I.) which failed some years ago, have been put in circulation in New York.

An Apprentices Library is about to be established at Portsmouth.

Two noted gamblers from New York, were lately convicted at Baltimore of keeping a gaming table, and fined $380.

A numerous mission family, consisting of 18 persons, sailed from New Haven on the 20th Nov. for the Sandwich Islands.

An extensive quill manufactory has recently been established at Philadelphia.

A splendid eruption of Mount Versuvius occurred on the night of the 6th Sept. unaccompanied by earthquake.

On the 28th Sept. William Haygate, Esq. merchant tailor, was elected Lord Mayor of the city of London.

Two men have been arrested in Fredericksburg, Va. for passing counterfeit money; upwards of $6000 in spurious notes were found concealed in one of their trunks, and were remarkably well executed.

The number of under graduates at Yale College is 371—medical students 92—resident graduates 18—making a total of 481.

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* We have omitted the fractions in the numbers expressing the proportions of the constituents of the vegetable substances here enumerated, from a desire, as much as possible to simplify the subjects of our remarks.

† The following lines from Creech's Lucretius may, perhaps, induce the reflecting reader to frequently turn the *mind's eye* to objects of great importance, although too small for corporeal vision.

"Know there are bodies, which no eye can see,
Yet them from their effects, we grant to be,
For first the winds disturb the seas, and tear
The stoutest ships, and chase the clouds through air;
The numerous odours too, whose smells delight,
And please the nose are all too thin for sight;
Besides fresh clothes extended near the main,
Grow wet; but by the sun are dried again.
Yet what eye saw when first the moisture sate?
Or when it rose, and fled before the heat?
Therefore we must conclude the drops t' have been
Dissolv'd to parts too subtle to be seen.
Nay more, 'tis certain every circling year
The rings, which grace the hands diminish there,
Drops wear out stones, and while we plough, the share
Grows less.
Lastly, not even the sharpest eye e'er sees,
What ports to make things grow by just degrees
Nature does add; nor what she takes away
When age steals softly on, and things decay,
For the same seeds compose both earth and seas,
The sun, the moon, all animals and trees,
But their contexture, or their motion disagrees.

SELECTED FOR THE NEW ENGLAND FARMER.

RURAL SCENERY.

See where the farmer, with a master's eye,
Surveys his little kingdom, and exults
In sovereign independence. At a word,
His feathery subjects in obedience flock
Around his feeding hand, who in return
Yield a delicious tribute to his board,
And o'er his couch their downy plumage spread.
The peacock here expands his gorgeous plumes,
A glittering pageant to the mid-day sun:
In the stiff awkwardness of foolish pride,
The swelling turkey apes his stately step,
And calls the bristling feathers round his head.
There the loud herald of the morning struts
Before his cackling dames, the passive slaves
Of his promiscuous pleasure. O'er the pond,
Behold the gander, and his female train,
Bending their lofty necks; and gabbling ducks,
Rejoicing on the surface, clap their wings;
Whilst wheeling round, in airy wanton flights,
The glossy pigeons chase their sportive loves,
Or in soft cooings tell their amorous tales.
Here stacks of hay; there pyramids of corn,
Promise the future market large supplies:
While with an air of triumph he surveys
His piles of wood, and laughs at winter's frown.
In silent rumination, see the kine,
Beneath the maple's shade, patiently wait
To pour into his pails their milky stores.
These his amusements, his employments these;
Which still arising in successive change,
Give to each varied hour a new delight.
Peace and contentment with their guardian wings
Enclose his nightly slumbers. Rosy health,
When the gay lark's sweet matin wakes the morn,
Imprints her dewy footsteps round the field,
And cheerfulness attends his closing day.
No racking jealousy, nor sullen hate,
Nor fear, nor envy, discompose his breast.
His only enemies the prowling fox
And haggard wolf, that thin the bleating fold;
The bristly porcupine, the cruel hawk,
With eye malignant on the little brood
Sailing around portentous.
Th' amphibious otter bold; the weasel sly,
Pilfering the yolk from its enclosing shell;
And moles, a dirty undermining race.
These are his foes, and these, alas, compar'd
With man to man an inoffensive train.
'Gainst these assisted by th' entangling net,
Th' explosive thunder of the levell'd tube,
Or toils unwearied of his social friend,
The faithful dog, he wages rural war,
And health and pleasure in the sportive field
Obtaining, he forgives their venial crimes.

Pigs in the character of Ministers of Justice.

An old English writer gives the following account of a signal instance of justice performed by pigs.—"Certain pirates, who seem not well to have learned their business, since they were unable to swim, had landed on the coast of Tuscany, and carried off the swine from a farm. As the robbers were paddling off from the shore, their keeper returned and blew his horn, by which he had been accustomed to call his swine to their meals. At the well known sound, the grunters all started up, and crowding to one side of the boat, overturned it, and swam ashore to their keeper, leaving the unfortunate thieves to drown.

A HORRID SCENE OF CRUELTY.

The following is taken from *Lawrence's Treatise of Neat Cattle*. The author is an Englishman, whose works have been praised in British Reviews and quoted with approbation in British Cyclopedias, and other works of science. We do not give this relation by way of stigmatizing the lower orders of the English as peculiarly atrocious, nor by way of *balancing* the charges which some foreigners have exhibited against Americans, for not being so civil, humane, enlightened and highly polished as their brethren on the other side of the Atlantic. But we exhibit it by way of shewing what ferocious animals mankind are, when they can divest themselves of the restraints which religion and the regulations of society impose upon their passions and propensities.

"I give place to the following anecdote, from a sense of duty, and by no means in a frame of mind, to treat the subject in a tender, still less in a ludicrous way. Far from thinking that the knowledge of flagrant acts of cruelty should be delicately hushed and suppressed, in my opinion, they cannot be proclaimed too loud, or disseminated too widely, for the purpose of raising a general abhorrence, exciting a due sense of shame, or imparting the needful information to those whom custom and prejudice hold in a contemptible and degrading state of ignorance. I dare trust myself with making few remarks; indeed the bitterest language of execration would fall far short of what is due to the enormities of the tale to be told; the senseless and beastly actors in which are, however, inferior in guilt to the cool, deliberate, and argumentative defenders of such infernal *games*. 'November the 5th, last, at Bury, a bull, naturally gentle! which had in the morning, previous to baiting, been privately baited, and goaded with sharp instruments, in order to render him furious, though tied down with ropes, in his agony from being worried by dogs, and goaded by more inhuman dogs in human shapes, burst his ropes, to the terror of his tormentors, and the no small danger of the peace of the inhabitants: after this, the poor beast was doomed to be the victim of the still greater barbarity of fresh tortures—he was entangled again with ropes, and, horrible to relate, his hoofs were cut off, and he again baited while he had to defend himself on his mangled, bleeding stumps. The magistrates of Bury have repeatedly tried to prevent such infernal, demoniacal proceedings; but the demons are sanctioned, it seems, by AN ACT OF PARLIAMENT! Surely such an act is highly disgraceful to the age we live in, and to this country. Extracted from a magazine; and sorry I am to observe, that no doubt need be made of its authenticity. Should this account chance to fall into the hands of actors in scenes like these, or into those of the still more guilty palliators of them (for hypocritical extenuation is infinitely the greater crime,) I beg of them seriously to reflect on the possibility of those tortures, which they have thus wantonly inflicted, although upon a poor and friendless beast, intruding upon their minds, when their own bodies may be racked and tortured with disease, perhaps on their death bed, and in their last agonized moments. Will they *then* think, that the infliction of torments upon one animal ought to convey pleasing and mirthful sensations to the breast of another?"

3000 persons are said to have attended an Oratorio at Philadelphia last week.

PATENT GRIDIRON.

New-York, 12th Nov. 1822.

To MR. MUSSEY.

I willingly, sir, give you my opinion on your patent, economical utensil, the hollow-barred Gridiron, with a Reflector and a Dripping-Pan.

Broiling has been considered as the most savoury, but at the same time the most wasteful way of cooking meat. Your invention removes in a great measure, from this operation, the charge of extravagance, by saving the fat and juice from destruction by the hot coals. The rays of heat, repelled from the bright surface of tin, add to it the valuable properties of the Dutch oven. Having satisfied myself by experiment that it is admirable in a saving manner, I recommend your gridiron and its appurtenance, as a piece of kitchen apparatus, to all house-keepers who are desirous of combining the luxury of eating with frugality in cooking.

SAMUEL MITCHELL.

N. B. The above Gridiron may be seen at this office, and orders received for them.

N. Y. Nat. Adv.

Rare Sport.—A Farmer who lived on the lake shore, observing a bear crossing a bay was anxious to kill him. He ran to his skiff and without reflecting that he had no weapon but his paddle, worked his way to the bear, who immediately sprung into the skiff, and to the great terror and consternation of the farmer, very deliberately sat down on the bow. The Farmer after some reflection, determined to carry him back and attempted to turn the boat, but the bear made an advance to prevent him, and the boat impelled by the wind having gained its first position the bear again very quietly took his seat on the bow. The farmer made a second and third attempt with always the same result; and perceiving that when the boat went the way the bear was swimming, he was quiet, he very prudently determined to reach the land in that direction. He accordingly went on, and when he was within a few feet of the shore, the black passenger leaped out, to the great satisfaction of both himself and the ferryman.—*Western paper.*

Franklin.—It is rather a curious incident that when the Americans sent Dr. Franklin, a printer, as Minister to France, the Court of Versailles sent M. Girard, a bookbinder, as Minister to Congress. When Dr. Franklin was told of it, "Well," said he, "I'll *print* the Independence of America, and M. Girard will *bind* it."

In the year 1776 a Bill was introduced into the British House of Commons, for the better watching of the Metropolis, in order to effect which object one of the clauses went to propose that watchmen should be *compelled* to sleep by day. Lord Nugent, with admirable humor, got up, and desired that he might be *personally* included in the provisions of the bill, being frequently so tormented with the gout as to be unable to sleep by day or by night.

To desire little makes poverty equal with riches. He who wants, is not rich; nor he who wants not, poor.—Riches are not to be measured by their use; I cannot call large possessions rich, but so much as is conducive to comfort.